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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,478	03/01/2004	Shoupu Chen	86570SLP	9531

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EXAMINER

PARK, EDWARD

ART UNIT	PAPER NUMBER
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2624

MAIL DATE	DELIVERY MODE
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09/07/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/790,478	Applicant(s) CHEN ET AL.	
	Examiner Edward Park	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 13 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is responsive to applicant's amendment and remarks received on 8/13/07.

Claims 1-15 are currently pending.

Claim Objections

2. The following is a quotation of 37 CFR 1.75(a):

The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

Claim 15 is objected to under 37 CFR 1.75(a), as failing to conform to particularly point out and distinctly claim the subject matter which application regards as his invention or discovery. The claim utilizes a forward slash "/", for example in claim 15, which recites "lower/higher thresholding". It is unclear whether the "/" operation indicates an "and", and "or", or an "and/or". Clarification is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. **Claims 1-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoi et al. (US 6,951,536 B2) with Alfano et al (US 6,240,312 B1), and further in view of Nemeth et al. (WO 01/99703 A2).

Regarding **claims 1 and 11**, Yokoi teaches an automatic notification and remote access method for diagnosing real-time in vivo images from a location remote from one or more in vivo video camera systems, comprising the steps of:

a) capturing multiple sets of real-time in vivo images (“set of images captured inside the body”; Yokoi: col. 19, line 63-64) using the one or more in vivo video camera systems (“an image pickup device and an illumination device”; Yokoi: figure 4; col. 4, lines 65-67);

Yokoi does not teach forming an examination bundle, image processing the examination bundle; automatically detecting one or more abnormalities in the examination bundle, signaling an alarm, receiving an automatic notification, routing the automatic notification to remote recipient(s), executing one or more diagnosing tasks and applying image processing algorithms to an image portion of the examination bundle.

Alfano teaches image processing the examination bundle and applying image processing algorithms to an image portion of the examination bundle (Alfano: figure 1; col. 6, lines 21-35).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Yokoi reference to image process/processing algorithms to the examination bundle as suggested by Alfano, in order “to improve the sensitivity of the disease diagnosis” (Alfano: col. 6, lines 21-35).

Nemeth, in the same field of “monitoring medical data” (Nemeth: pg. 1) teaches:

b) forming an in vivo video camera system examination bundle of a patient that includes the real-time (“real time”; Nemeth: pg. 9, line 20) captured in vivo images for each of the one or more in vivo video camera systems (“medical data relating to physiological or biological status of a patient includes all data relating to the physical condition and composition of the patient”; Nemeth: figure 1, numeral 10; pg. 14, lines 19-21). Images fall under the category of medical data since it is well known in the art that data transcribed in the form of medical images are essential for examination purposes.

d) automatically detecting one or more abnormalities in one or more of the vivo images in the examination bundle (“analyze the medical data to determine if any of the conditions under which an alert is to be provided”; Nemeth: figure 2, numeral 58; pg. 22, lines 20-28);

e) signaling an alarm provided that the one or more abnormalities in the examination bundle have been detected (“analyze the medical data and provide the third party with an alert if the medical data meets the established conditions for an alert”; Nemeth: figure 2, numeral 58; pg. 32, lines 17-18);

f) receiving an automatic notification via one or more unscheduled alarming messages from one or more randomly located in vivo video camera systems “store the medical data and other related information for review by third party” (Nemeth: figure 2, numeral 64);

g) routing the automatic notification to remote recipient(s) (“other parties can be notified in the same or a different manner”; Nemeth: figure 2, numeral 68, pg. 11, lines 5-12); and

h) executing one or more diagnosing tasks corresponding to the automatic notification (“third party may instruct the patient to take certain remedial measures”; Nemeth: figure 2, numeral 70; pg. 27, lines 30-32; pg. 28, lines 1-16).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Yokoi with Alfano combination as mentioned above to utilize forming an in vivo video camera system examination bundlette as suggested by Nemeth, in order to further enhance the treatment of a patient by allowing all data to be accessible at once by any party.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Yokoi with Alfano combination to automatically detect one or more abnormalities in the examination bundlette based on predetermined criteria for the patient as suggested by Nemeth, in order “analyze and respond to the medical data in a timely matter” (Nemeth: pg. 8, lines 11) and to reduce human errors in manual detection.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Yokoi with Alfano combination to signal, receive, and route an alarm/message, and to execute one or more diagnosing tasks as suggested by Nemeth, in order to allow “the third party to quickly review the medical data and other related information, to provide instructions for any necessary remedial action” (Nemeth: pg. 33, lines 3-5) and to effectively treat the patient’s illness or ailment.

Regarding **claim 2**, the rejection of claim 1 is incorporated and Yokoi further discloses wherein the unscheduled alarming messages correspond to a detection (“conducting examination”; Yokoi: col. 2, lines 5-7) of an abnormality found in the patient’s GI tract (“inside of somatic cavities”; Yokoi: figure 1, numeral 16A, B; col. 2, lines 5-7).

Regarding **claim 3**, the Yokoi, Alfano, with Nemeth combination teaches the elements disclosed in claim 1. The Yokoi, Alfano, with Nemeth combination as mentioned above in claim 1, does not teach where in the automatic notification includes patient metadata describing the

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patient's medical history and location. Nemeth further teaches where in the automatic notification includes patient metadata describing the patient's medical history and location ("position of the patient underlying medical data"; Nemeth: pg. 10, lines 5-15). It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Yokoi, Alfano, with Nemeth combination to include patient metadata describing the patient's medical history and location as suggested by Nemeth, in order to have all related patient information bound together to effectively treat the patient's illness or ailment.

Regarding **claim 4**, the rejection of claim 1 is incorporated and Yokoi further discloses wherein the one or more randomly located in vivo video camera systems are located in different geographic regions of a country and/or a continent ("patient is in a remote location far from a hospital"; Yokoi: fig. 36A, B; col. 25, lines 20-31).

Regarding **claim 5**, the Yokoi, Alfano, with Nemeth combination teaches the elements disclosed in claim 1. The combination does not teach providing a communication channel and providing the remote recipient(s) with the automatic notification of a detected GI tract abnormality. Nemeth further teaches wherein the step of routing the automatic notification to the remote recipient(s), further comprises the steps of:

providing a communication channel to the remote recipient(s) ("medical data is transmitted via the internet such that the third party can view the medical data"; Nemeth: pg. 10, lines 24-25); and

providing the remote recipient(s) with the automatic notification of a detected GI tract abnormality ("transmit an alert if it is determined that the medical data meets the conditions established for the generation of an alert"; Nemeth: pg. 10, lines 29-31).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Yokoi, Alfano, with Nemeth combination to provide a communication channel and automatic notification as taught by Nemeth, in order to allow “the third party to quickly review the medical data and other related information, to provide instructions for any necessary remedial action” (Nemeth: pg. 33, lines 3-5) and to effectively treat the patient’s illness or ailment.

Regarding **claim 6**, the rejection of claim 1 is incorporated and Yokoi further discloses wherein the unscheduled alarming messages operate within a two-way messaging system (“cellular phones, internet”; Yokoi: fig. 36A, numeral 182; col. 25, lines 38-39).

Regarding **claim 7**, the rejection of claim 1 is incorporated and Yokoi further discloses wherein the remote recipient receives messages by utilizing a two-way messaging system (“cellular phones, internet”; Yokoi: fig. 36A, numeral 182; col. 25, lines 38-39).

Regarding **claim 8**, the rejection of claim 1 is incorporated and Yokoi further discloses wherein the remote access is accomplished by a communications network (“transmission may be conducted with other communications means such as cellular phone, internet”; Yokoi: fig. 36A, numeral 182; col. 25, lines 9-13, 35-39) for retrieving and/or sending the patient's in vivo images from multiple locations either inside or outside (“remote site”; Yokoi: col. 25, lines 9-13, 35-39) of a clinical environment (“remote location far from a hospital”; Yokoi: col. 25, lines 9-13, 35-39).

Regarding **claim 9**, the rejection of claim 1 is incorporated and Yokoi further discloses wherein the step of forming the examination bundlette, includes the steps of:

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forming an image packet of the captured in vivo images of the patient (“image data ... accumulated in memory”; Yokoi: col. 22, lines 11-13);

forming patient metadata (“memory storing the patient’s data”; Yokoi: col. 22, lines 21);
and

combining the image packet and the patient metadata into the examination bundlette (“when the image data are transmitted, the patient’s data stored in the memory may be transmitted as header information of the image data”; Yokoi: col. 22, lines 20-25).

Regarding **claim 10**, the rejection of claim 1 is incorporated and Yokoi further discloses wherein the step of processing the examination bundlette, includes the steps of:

separating the in vivo images from the examination bundlette (“identification code may be recognized by the external unit and separated from the image data” Yokoi: col. 20, lines 43-44);

and processing the in vivo images according to selected image processing methods (“control circuit ... conducts a comparative processing such as pattern matching of the captured image and the disease image read out from the disease database ...”; Yokoi: figure 18; col. 19, lines 29-35).

5. **Claims 12-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoi et al. (US 6,951,536 B2), Alfano et al (US 6,240,312 B1), with Nemeth et al. (WO 01/99703 A2), and further in view of Kenet et al (US 5,836,872).

Regarding **claims 12-15**, Yokoi, Alfano, with Nemeth combination discloses all elements as mentioned above in claim 1. The Yokoi, Alfano, with Nemeth combination does not teach detecting one or more abnormalities based on predetermined image criteria for the patient;

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detecting one or more abnormalities based on predetermine image criteria for the patient employing image data transformation and detection; transforming image data for an image portion of the examination bundlette to a generalized color space; detecting one or more abnormalities by applying thresholding; and applying lower/higher thresholding or higher thresholding.

Kenet teaches detecting one or more abnormalities based on predetermined image criteria for the patient (Kenet: col. 16, lines 36-67; col. 17, lines 1-15); detecting one or more abnormalities based on predetermine image criteria for the patient employing image data transformation and detection (Kenet: col. 16, lines 36-67; col. 17, lines 1-15); transforming image data for an image portion of the examination bundlette to a generalized color space (Kenet: col. 16, lines 36-67; col. 17, lines 1-15); detecting one or more abnormalities by applying thresholding (Kenet: col. 16, lines 36-67; col. 17, lines 1-15); and applying lower/higher thresholding or higher thresholding (Kenet: col. 16, lines 36-67; col. 17, lines 1-15).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Yokoi, Alfano, with Nemeth combination to utilize image transformation and to detect abnormalities through thresholding as suggested by Kenet, in order to enhance the reliability, precision of the system in regards to detection of abnormalities.

Response to Arguments

6. Applicant's arguments with respect to **claim 1** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward Park whose telephone number is (571) 270-1576. The examiner can normally be reached on M-F 10:30 - 20:00, (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner can be reached on (571) 272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Edward Park
Examiner
Art Unit 2624

/Edward Park/

/Brian P. Werner/
Supervisory Patent Examiner (SPE), Art Unit 2624